Listing of Claims:

1.   (Original) A method of acquiring a received broadcast signal of the type having a repeated code to distinguish the signal from other codes broadcast at substantially the same frequency but having small differences due to frequency shifts, comprising:

mixing the received broadcast signal with a local frequency derived from a master clock source;

digitizing the received broadcast signal to produce a received digitized signal;

correlating the received digitized signal with a local version of the repeated code using a clock derived coherently from the master clock source for a first time period to produce a first result;

correlating the received digitized signal with a local version of the repeated code using the clock derived coherently from the master clock source for a second time period separated from the first time period by a separation period to produce a second result; and

combining the first and second correlation results by comparing the location of correlation peaks to reject peaks not appearing at the same position in both the first and second correlation results to thereby acquire the broadcast signal.

2.   (Original) The method of claim 1, wherein a correlation peak is one for which the amplitude is N times the mean correlation amplitude, where N is a non-integer.

3.   (Original) The method of claim 2, wherein N is in the range of 2 to 4.

4.   (Original) The method of claim 2, wherein the value N is selected so that, for a given correlation around 10, correlation positions have amplitudes N times the mean.

5.   (Original) The method of claim 1, wherein a correlation peak is one for which the neighboring code positions are lower.

6.   (Original) The method of claim 1, wherein a correlation peak is one for which the first and second correlation results are derived from a signal at the same frequency.

7.   (Original) The method of claim 1, wherein when there is more than one possible correlation peak, the larger peak is selected.

8.   (Original) The method of claim 1, wherein the first and second integration periods are of the order 100ms.

9.   (Original) The method of claim 1, wherein the separation period is of the order one second.

10.   (Original) The method of claim 1, wherein the separation period is chosen such that the other codes broadcast at substantially the same frequency produce integrations at different relative positions in the first and second integrations due to the frequency shifts.

11.   (Original) The method of claim 1, wherein the signal is a GPS signal.

12.   (Original) A system arranged to acquire a received broadcast signal, of the type having a repeated code, to distinguish the signal from other codes broadcast at substantially the same frequency but having small differences due to frequency shifts, the system comprising:

a clock divider arranged to receive a master clock signal and to produce a mixing frequency for mixing with the received broadcast signal to reproduce a digitized mixed down signal and a correlation clock;

a correlator arrangement arranged to receive the digitized signal and the correlation clock and to correlate the received digitized signal with a stored copy of the repeated code for at least two integration periods separated by a separation period;

a store arranged to store the results of the correlations; and

a comparator arranged to compare the results of the at least two correlations by comparing the location of integration peaks to reject peaks not appearing at the same position in the results of the at least two integrations.

13.   (Original) The system of claim 12, wherein the first and second correlation periods are of the order 100ms.

14.   (Original) The system of claim 12, wherein the separation period is of the order 1 second.

15.   (Original) The system of claim 12, wherein the separation period is chosen such that the other codes broadcast at substantially the same frequency produce correlations at different relative positions in the first and second correlations due to the frequency shifts.

16.   (Original) The system of claim 12, comprising a mean derivation unit arranged to derive a mean value of the results of the integrations, the comparator arranged to determine which relative code positions have peaks with values greater than N times the mean value and to select those peaks appearing at the same position in the first and second integrations.

17.   (Original) The system of claim 16, wherein N is a non-integer value between 2 and 4.

18.   (Original) The system of claim 12, wherein the system is a semiconductor integrated circuit.

19.   (Original) A GPS receiver comprising the system of claim 12.

20.   (Original) A receiver for acquiring a received broadcast signal, comprising:

a radio circuit, comprising:

a clock divider circuit configured to receive a master clock signal and to generate a mixing frequency signal and a correlation clock signal;

a mixer coupled to the clock divider circuit and configured to mix the received broadcast signal with the mixing frequency signal and to produce a mixed received signal; and

an analog-to-digital converter coupled to the mixer and configured to digitize the mixed received signal to produce a digitized received signal; and

a digital signal processor coupled to the radio circuit, the digital signal processor comprising:

a correlation circuit configured to correlate the digitized received signal using the correlation clock signal to produce two correlation results; and

an algorithm processing unit configured to compare the correlation results to reject correlation peaks not appearing at the same position in the two correlation results.

21.   (Original) The receiver of claim 20, wherein the digital signal processor comprises a mean derivation unit configured to derive a mean value of the correlation results, the algorithm processing unit configured to determine which correlation peaks have values greater than N times the mean value and to select those peaks appearing at the same position in the correlation results, where N is a non-integer.

22.   (Original) The receiver of claim 21, where N is a non-integer value between 2 and 4.

23.   (Original) The receiver of claim 20, wherein the algorithm processing unit is configured to integrate the correlation results to generate integration results and to eliminate integration results by having a separation period between integrations.

24.   (Original) A method of acquiring a received broadcast signal of the type having a repeated code to distinguish the signal from other codes broadcast at substantially the same frequency but having small differences due to frequency shifts, the method comprising:

deriving a code generator clock signal directly from a radio receiver L-band local oscillator;

mixing the received broadcast signal with the derived code generator clock signal and digitizing the mixed signal to produce a received digitized signal;

integrating the received digitized signal for a first time period to produce a first result and integrating the received digitized signal for a second time period separated from the first time period by a separation period to produce a second result; and

combining the first and second results and comparing the location of correlation peaks to reject peaks not appearing at the same position in both the first and second results to thereby acquire the broadcast signal.

25.   (Original) The method of claim 24, wherein comparing the peaks comprises selecting peaks with values greater than N times a mean value derived from the results of the integration, where N is a non-integer.

26.   (Original) The method of claim 25, where N is a non-integer value between 2 and 4.